



Zinc deficiency: a frequent and underestimated complication after bariatric surgery

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BACKGROUND:

Although zinc deficiency is common after bariatric surgery, its incidence is underestimated. The objective was to monitor zinc and nutritional status before and 6, 12 and 24 months (M6, M12 and M24) after gastric bypass (Roux-en-Y gastric bypass), sleeve gastrectomy and biliopancreatic diversion with duodenal switch (DS) in patients receiving systematised nutritional care.

METHODS:

Data for 324 morbidly obese patients (mean body mass index 46.2 ± 7.3 kg/m²) were reviewed retrospectively. The follow-up period was 6 months for 272 patients, 12 months for 175, and 24 months for 70. Anthropometric, dietary and serum albumin, prealbumin, zinc, iron and transferrin saturation measures were determined at each timepoint.

RESULTS:

Nine percent of patients had zinc deficiency pre-operatively. Zinc deficiency was present in 42.5% of the population at M12 and then remained stable. Zinc deficiency was significantly more frequent after DS, with a prevalence of 91.7% at M12. Between M0 and M6, variation in plasma prealbumin, surgery type and zinc supplementation explained 27.2% of the variance in plasma zinc concentration. Surgery type explained 22.1% of this variance between M0 and M24. Mean supplemental zinc intake was low (22 mg/day). The percentage of patients taking zinc supplementation at M6, M12 and M24 was 8.9%, 20.6% and 29%, respectively.

CONCLUSIONS:

Reduced protein intake, impaired zinc absorption and worsening compensatory mechanisms contribute to zinc deficiency. The mechanisms involved differ according to the type of surgery and time since surgery. Zinc supplementation is necessary early after bariatric surgery, but this requirement is often underestimated or is inadequate.

Résumé en anglais

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Titre abrégé

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